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EDUCATION:

Ph.D., Geology, Department of Earth Sciences, Syracuse University, May, 2011
B.S., Earth and Space Sciences with minor in Political Science, University of Washington, 2005

PROFESSIONAL EXPERIENCE:

Positions and Appointments

Post-Doctoral Research Fellow, Lawrence Berkeley National Lab, 2014-Present
Post-Doctoral Research Fellow, University of Nevada, Reno, Nov 2011-Dec 2013
Instructor, Dept. of Geol. Sciences and Eng., University of Nevada, Reno, Field Camp, 2011
Post-Doctoral Research Associate, Syracuse University, 2011
Geoscience Intern, Chevron Southern Africa Strategic Business Unit, 2010
Head Teaching Assistant/Teaching Assistant Coordinator, Syracuse University, 2009-2011
Research Assistant, Teaching Assistant Syracuse University, 2006-2009
Teaching Assistant's Assistant, University of Washington, 2005

Funded Research

Two year Post-Doctoral Fellowship, 2014-2016 funded by U.S. Department of Energy, Geothermal Technologies Office. \$250,000/yr.
Discovering Blind Geothermal Systems in the Great Basin Region: An Integrated Geologic and Geophysical Approach for Establishing Geothermal Play Fairways, funded by U.S. Department of Energy, Geothermal Technologies Office DE-EE0006731, 2014. Sub-contract to LBNL. \$30,092.
John J. Prucha Award for Outstanding Field Research Proposal. Syracuse University Department of Earth Sciences, 2009. \$1000.

Active and completed research projects

Frontier Observatory for Research in Geothermal Energy (FORGE), Fallon, NV, *Active*
Frontier Observatory for Research in Geothermal Energy (FORGE), Coso West, CA, *Active*
ISMET (Permeability and Induced Seismicity Management for Energy Technologies), *Active*
Geothermal play-fairway exploration, Great Basin, Carson Sink, NV, *Active*
Geothermal play-fairway exploration, Snake River Plain, ID, *Active*
Geothermal play-fairway exploration, Modoc Plateau, CA, OR and, NV, 2015
Geothermal play-fairway exploration, Oregon Cascades, OR, 2015
Estimates of deep geothermal perm., and TMHC modeling, Basin and Range, USA, *Active*
Geothermal exploration technique development: integration of magnetotelluric, structural and soil gas data, McGinness Hills, NV, *Active*
Data integration, 3D geologic modeling and geothermal fairway analysis, Astor Pass and Brady's geothermal systems, NV, *Active*

3D geologic modeling and structural analysis, San Emidio, Neal Hot Springs, Tuscarora and McGinness Hills geothermal systems, 2011-2013
Slip and dilation tendency and permeability analysis of Quaternary faults, Great Basin, 2012
Structural inventory of Great Basin Geothermal systems, 2011-2013
Structural and tectonic controls on rift lake hydrocarbon systems, East African Rift, 2011
Structure and kinematics of segment-scale crustal accretion processes in Iceland, 2006-2011
Mid-crustal processes at Mid-Ocean Ridges, Semail Ophiolite, Oman, 2006-2011

Teaching Experience

Field Trip Leader, Geothermal Resources Council, McGinness Hills and Salt Wells, NV, 2015
Invited Lecturer, 3D Geologic Modeling, National Geothermal Academy, Reno, NV, 2014
Field Trip Leader, Introduction to Icelandic Geothermal Systems, August 2013
Instructor, University of Nevada, Reno Field Camp, 2012, Kodachrome Basin Utah, May 2012
Head Teaching Assistant/Teaching Assistant Coordinator, Syracuse University 2009-2011
Teaching Assistant, Syracuse University, 2006-2008
Teaching Assistant's Assistant, University of Washington, 2005

Workshops and Continuing Education

Stanford Geothermal Workshop, 2012, 2015
Reservoir Geomechanics, Stanford University Online Course, 2014
AAPG Hedberg Conference, 3D Structural Geology and Cognitive Sciences, 2013
US/NZ Joint Geothermal Workshop, 2012

Professional Affiliations and Service

Geothermal Resources Council, Member
Geologic Society of America, Member
American Geophysical Union, Member

Content Reviewer, American Geoscience Institute Geothermal Energy Website, 2014
Alameda County Science and Engineering Fair Judge, 2014
Geothermal Resources Council Abstract Review Committee, 2012-2013
Science Fair Judge, Natchez Elementary School Wadsworth, NV, 2013
Head Teaching Assistant/Teaching Assistant Coordinator, Syracuse University 2009-2011

AWARDS:

Geothermal Resources Council Best Presentation Award, In recognition of Quality of Content and Presentation:

Siler, D.L., Kennedy, B. M. and Wannamaker, P. E., 2014. Regional Crustal Discontinuities as Guides for Geothermal Exploration.

Geothermal Resources Council Best Presentation Award, In recognition of Quality of Content and Presentation:

Siler, D.L., Mayhew, B. and Faulds, J. E., 2012. 3-Dimensional Geologic Characterization of Geothermal Systems: Astor Pass, Nevada. USA.

Chairman's Award for Outstanding Service to the Department and Professional Promise, Syracuse Earth Sciences, 2010.

Graduate Student Publication Award, Syracuse Earth Sciences. Best First Author Publication

Siler, D.L. and J.A. Karson, 2009. Three-dimensional structure of inclined sheet swarms: Implications for crustal thickening and subsidence in the volcanic rift zones of Iceland, Journal of Volcanology and Geothermal Research, 188, 333–346.

John J. Prucha Award for Outstanding Field Research Proposal, Syracuse Earth Sciences, 2009.

K. Douglas Nelson Award for Excellence in Graduate Research in the Field of Geophysics and Tectonics, Syracuse Earth Sciences, 2008.

PUBLICATIONS

- Siler, D.L.**, and Kennedy, B.M., 2016. Regional crustal-scale structures as conduits for deep geothermal upflow, *Geothermics*, 59A, 27-37. doi:10.1016/j.geothermics.2015.10.007
- Siler, D.L.**, Faulds, J.E. Mayhew, B., and McNamara, D., 2016. Analysis of the favorability for geothermal fluid flow in 3D: Astor Pass geothermal prospect, Great Basin, northwestern Nevada, USA, *Geothermics*, 60, 1-12. doi:10.1016/j.geothermics.2015.11.002
- Siler, D.L.**, and J.A. Karson, 2012. Sub-volcanic subsidence and caldera formation during sub aerial seafloor spreading in Iceland, *Geological Society of America Bulletin*, v. 124, no. 7-8, p. 1310-1323.
- Siler, D.L.**, and J.A. Karson, 2009. Three-dimensional structure of inclined sheet swarms: Implications for crustal thickening and subsidence in the volcanic rift zones of Iceland, *Journal of Volcanology and Geothermal Research*, 188, 333–346.

REVIEWED CONFERENCE PAPERS

- Siler, D.L.**, Hinz, N.H., Faulds, J.E., and Queen, J., 2016. 3D analysis of geothermal fluid flow favorability: Brady's, Nevada, USA. *Proceedings of the 41st Workshop on Geothermal Reservoir Engineering*.
- Yingqi Zhang, **Drew Siler**, Patrick Dobson, Colin Ferguson, Erika Gasperikova, James S. McClain, Peter Schiffrman, Nicolas F. Spycher, Robert Zierenberg, 2016. Using Fuzzy Logic to Identify Geothermal Resources and Quantify Exploration Risk through Play Fairway Analysis. *Proceedings of the 41st Workshop on Geothermal Reservoir Engineering*.
- Andrew Sabin, Kelly Blake, Mike Lazaro, Dave Meade, Douglas Blankenship, Mack Kennedy, Jess McCulloch, Steve DeOreo, Stephen Hickman, Jonathan Glen, Ole Kaven, Martin Schoenball, Colin Williams, Geoff Phelps, James E. Faulds, Nick Hinz, Wendy Calvin, **Drew Siler**, Ann Robertson-Tait, 2016. Geologic setting of the West Flank, a FORGE Site Adjacent to the Coso Geothermal Field. *Proceedings of the 41st Workshop on Geothermal Reservoir Engineering*.
- Nicholas H. Hinz, James E. Faulds, **Drew L. Siler**, Brett Tobin, Kelly Blake, Andrew Tiedeman, Andrew Sabin, Douglas Blankenship, Mack Kennedy, Greg Rhodes, Josh Nordquist, Stephen Hickman, Jonathan Glen, Colin Williams, Ann Robertson-Tait, Wendy Calvin, 2016. Stratigraphic and Structural Framework of the Proposed Fallon FORGE site, Nevada. *Proceedings of the 41st Workshop on Geothermal Reservoir Engineering*.
- Faulds, J.E., Blankenship, D. Hinz, N.H., Sabin, A., Nordquist, J., Hickman, S., Glen, J.M.G., Kennedy, B.M., **Siler, D.L.**, Robertson-Tait, A., Williams, C. Drakos, P., and Calvin, W., 2015. Geologic setting of the proposed Fallon FORGE site, Nevada: Suitability for EGS Research and Development. *Geothermal Resource Council Transactions*, 39.
- Sabin, A., Blake, K., Lazaro, M., Blankenship, D., Kennedy, B.M., McCullough, J., DeOreo, S., Hickman, S., Glen, J.M.G., Kaven, O., Williams, C., Phelps, G., Faulds, J., Hinz, N.H., Calvinm W, **Siler D.L.**, and Robertson-Tait, A., 2015. Geologic Setting of the Proposed West Flank Forge site, California: Suitability for EGS Research and Development. *Geothermal Resource Council Transactions*, 39.
- Siler, D.L.**, Hinz, N.H. and Faulds, J.E., 2015. Earthquake Related Stress Concentrations and Permeability Generation in Geothermal Systems. *Geothermal Resource Council Transactions*, 39.
- Faulds, J.E., Hinz, N.H., Coolbaugh, M.F., Shevenell, L.A., **Siler, D.L.**, DePolo, C.M., Hammond, W.H., Kreemer, C., Oppliger, G., Wannamaker, P.E., Queen, J., and Visser, C., 2015. Integrated Geologic and Geophysical Approach for Establishing Geothermal Play Fairways and Discovering Blind Geothermal Systems in the Great Basin Region, Western USA: A Progress Report, 39.

- Shervais, J.W., Glen, J.M., Liberty, L.M., Dobson, P., Gasperikova, E., Sonnenthal, E., Visser, C., Nielson, D., Garg, S., Evans, J.P., **Siler, D.L.**, DeAngelo, J., Athens, N., and Burns, E., 2015. Snake River Plain Play Fairway Analysis- Phase 1 Report, 39.
- McClain, J. Dobson, P., Cantwell, C., Conrad, M., Folwer, A., Gasperikova, E., Glassley W., Hawkes, S., Schiffman, P., **Siler, D.L.**, Sonnenthal, E., Spycher, N., Zierenberg, R., 2015. Geothermal Play Fairway Analysis of Potential Geothermal Resources in NE California, NW Nevada, and Southern Oregon: A Transition between Extension-Hosted and Volcanically Hosted Geothermal Fields, 39.
- Siler, D.L.**, Kennedy, B.M. and Wannamaker, P.E., 2014. Regional Crustal Discontinuities as Guides for Geothermal Exploration. Geothermal Resource Council Transactions, 38: 39-47.
- Siler, D.L.**, and Faulds, J.E., 2013. Three-Dimensional Geothermal Fairway Mapping: Examples from the western Great Basin, USA. Geothermal Resource Council Transactions, 37: 327-332.
- Faulds, J.E., Hinz, N.H., Dering, G.M., **Siler, D.L.**, 2013. The Hybrid Model — The Most Accommodating Structural Setting for Geothermal Power Generation in the Great Basin, Western USA. Geothermal Resource Council Transactions, 37: 4-10.
- Hinz, N.H., Faulds, J.E., **Siler, D.L.**, 2013. Developing Systematic Workflow from Field Work to Quantitative 3D Modeling for Successful Exploration of Structurally Controlled Geothermal Systems. Geothermal Resource Council Transactions, 37: 275-279.
- Siler, D.L.**, Mayhew, B. and Faulds, J.E., 2012. Three-Dimensional Geologic Characterization of Geothermal Systems: Astor Pass, Nevada, USA. Geothermal Resource Council Transactions, 36: 783-786.

In Preparation and review

- Siler, D.L.**, and J.A. Karson, *in prep.* Segment-scale crustal accretion processes in Iceland.
- Siler, D.L.**, et al., *in prep.* 3D permeability investigation, Brady's Geothermal System, Great Basin USA.
- Siler, D.L.**, et al., *in prep.* Three-dimensional geologic modeling and geothermal potential mapping in Great Basin geothermal systems.
- Siler, D.L.**, and Scholz, C.A. *in prep.* Magmatic rift evolution in the Eastern Branch of the East African Rift System: Magmatic and tectonic controls on rift-lake occurrence.

ABSTRACTS:

- Siler, D.L.**, Faulds, J.E., and Hinz, N.H., 2015. Regional and local geothermal potential evaluation: Examples from the Great Basin, Iceland and East Africa, in: Proceedings of the World Geothermal Congress. pp. 19–25.
- Hinz, N.H., Coolbaugh, M.F., Faulds, J.E., **Siler, D.L.**, Dering, G., 2015. Building the Next Generation of Regional Geothermal Potential Maps: Examples from the Great Basin Region, Western USA, in: Proceedings of the World Geothermal Congress. pp. 19–25.
- Siler, D.L.**, and Kennedy, B.M., 2014. Long-lived structural discontinuities as guides for geothermal exploration. Geological Society of America Abstracts with Programs.
- Siler, D.L.**, and Hinz, N.H., 2014. Fault scaling and permeability controls in geothermal systems. Eos Transactions, AGU Fall Meet. Suppl.
- Faulds, J.E., Hinz, N.H., Coolbaugh, M.F., and **Siler, D.L.**, 2014. Favorable structural setting of active geothermal systems in the Great Basin region, western USA: Implications for fluid flow, normal faulting mechanics, and geothermal and epithermal mineral exploration. Geological Society of America Abstracts with Programs.
- Siler D.L.**, and Faulds, J.E., 2013. Play-fairway analysis for geothermal exploration: Examples from the Great Basin, Western USA, Geological Society of America Abstracts with Programs. Vol. 45, No. 7, p.653, Abstract 282-6.
- Faulds, J.E., Hinz N.H., **Siler D.L.**, Coolbaugh, M.F., Queen, J.H., and Zemach, Ezra, 2013. Structural controls on the Brady's geothermal system, western Nevada: Insights from integrated geologic,

- geophysical and 3D characterization, Geological Society of America Abstracts with Programs. Vol. 45, No. 7, p.653, Abstract 282-5.
- Hinz N.H., Faults, J.E., and **Siler, D.L.**, 2013. Exploration of structurally controlled geothermal systems – systematic and integrated workflow from field work to quantitative 3D mapping, modeling and drill targeting, Geological Society of America Abstracts with Programs. Vol. 45, No. 7, p.653, Abstract 282-4.
- Wannamaker, P.E., Faults, J.E., Kennedy, B.M., **Siler, D.L.**, and Maris, V., 2013. Seeking magmatic, high-enthalpy geothermal sources in the extensional Great Basin, western U.S., using integrative magnetotellurics (MT), isotope geochemistry and structural geology. Geological Society of America Abstracts with Programs. Vol. 45, No. 7, p.652, Abstract 282-3.
- Siler, D.L.**, Mayhew, B., Faults, J.E., McNamara, D., 2013. Advancements in 3D Geologic Characterization of Geothermal Systems. AAPG Hedberg Research Conference, 3D Structural Geologic Interpretation: Earth, Mind, and Machine.
- Siler, D.L.**, Mayhew, B., Faults, J.E., 2012. 3D Characterization of a Great Basin Geothermal Systems: Astor Pass, NV. Eos Transactions, AGU Fall Meet. Suppl Abstract #V13A-2828
- Karson, J.A., **Siler, D.L.**, A.J. Horst, A.F. Nanfity and R.J. Varga, Subaerial seafloor spreading in Iceland: Manifestations of ridge-hotspot interactions, Chapman Conference on the Galápagos as a Laboratory for the Earth Sciences, Puerto Ayora, Galápagos, Ecuador, July 2011
- Pollock, M., Sloan, J.A., **Siler, D.L.**, Karson, J.A., 2011. Emplacement of a Thick Mafic Extrusive Body: A CSD Solution to a Map-Generated Question. Eos Transactions, AGU Fall Meet. Suppl., Abstract # V13C-2615.
- Siler, D.L.**, Varga, R.J., Horst, A.J., Karson, J.A., 2010. Subsidence and basaltic caldera formation during crustal construction in Iceland. Eos Transactions, AGU Fall Meet. Suppl., Abstract # T31B-2160.
- Karson, J.A., **Siler, D.L.**, Horst, A.J., Varga, R.J., Curewitz, D. 2009. Toward a Comprehensive View of Seafloor Spreading: What's Happening Under the R2K Study Areas? Eos Transactions, AGU Fall Meet. Suppl., Abstract #OS21B-01.
- Karson, J.A., R.J. Varga, **Siler D.L.**, and A.J. Horst, Subaerial Seafloor Spreading in Iceland: Segment-Scale Processes and Analogs for Fast-Spreading Mid-Ocean Ridge Spreading Centers, European Geophysical Union Meeting, Vienna, May 2010.
- Karson, J.A., **Siler, D.L.**, A.J. Horst, R.G. Varga and D. Curewitz, Toward a Comprehensive View of Seafloor Spreading: Integrating R2K Surface Data with Subsurface Geological Perspectives, Ridge 200 Workshop, St. Louis, MO, October 2009
- Siler, D.L.**, J.A. Karson, R.J. Varga, M. Pollock, A.J. Horst, and A.F. Nanfity, 2009, Structure and kinematics of segment-scale crustal accretion processes in Iceland. Eos Transactions. AGU Fall Meet. Suppl., Abstract #OS13A-1165.
- Siler, D.L.**, J.A. Karson, 2009. Crustal accommodation space generated during rifting in Iceland. AAPG Abstract Volume, 2009.
- Varga, R.J., Horst, A.J., Karson, J.A., **Siler, D.L.**, Gee, J.S., 2008. Rapid subsidence and formation of thick volcanic sections at magma-rich spreading centers: Paleomagnetic and AMS evidence from north-central Iceland, Eos Transactions. AGU Fall Meet. Suppl., Abstract #GP21D-0801
- Siler, D.L.**, J.A. Karson, and A.J. Horst, 2008. Sheet swarms and crustal thickening at Icelandic spreading segment centers. Eos Transactions. AGU Fall Meet. Suppl., Abstract #GP13A-08
- Siler, D.L.**, J.A. Karson, R.J. Varga and A.J. Horst, 2007. Internal structure of the extinct Skagi-Húnaflói Rift Zone and implications for magmatic construction. Eos Transactions. AGU, Fall Meet. Suppl., Abstract #T23B-1424
- Siler, D.L.** and Karson, J.A., 2007. Structural interpretations of a subsidence related flexure zone and implication for crustal accretion processes; Vatnsdalsfjall, Iceland. Nordic Volcanological Center: Summer School on Geodynamics and Magmatic Processes.

LIST OF REFERENCES:

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